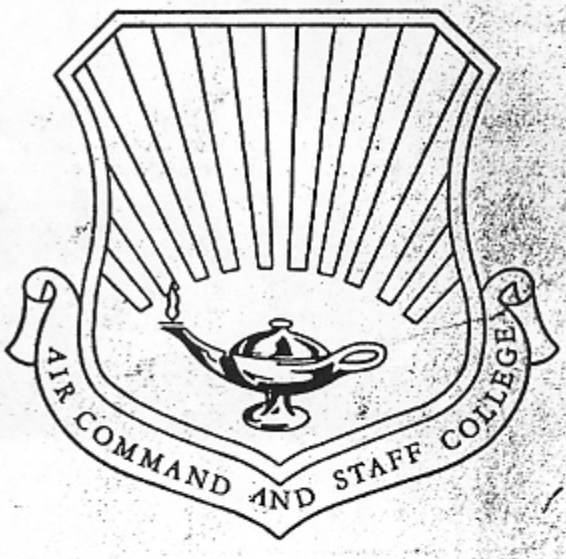
AIR COMMAND AND STAFF COLLEGE

RESEARCH STUDY



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A STUDY OF AIRPOWER EMPLOYMENT IN THE SIX-DAY WAR

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ABSTRACT

Israel's employment of airpower in the Six-Day War of 1967 is often referred to as the classic example of successful use of modern airpower. This study examines Israel's use of airpower to determine what lessons, relative to the employment of modern air forces, might be drawn from the Six-Day War. It concludes that although the Israelis relied on the traditional concepts of aerial warfare, there are still valuable and applicable lessons to be learned from the methods the Israelis utilized to maximize the effectiveness of their weapon systems.

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CHAPTER I

INTRODUCTION

In the Summer of 1967, the attention of the world was drawn to the explosive Middle East. Tension mounted as border incidents between the Israelis and Arabs increased in frequency and magnitude. Nasser had blockaded the Gulf of Aqaba, expelled United Nations' peace-keeping forces from the Sinai Peninsula, and massed his armor in the desert along Israel's western borders. The radios of Cairo, Damascus, and Amman broadcast threats of driving the Jews into the sea and eliminating them from the face of the earth in a holy war. Confronted with the threat of annihilation, Israel struck against her Arab enemies with a military blow that astonished the World.

On Monday morning, 5 June 1967 at 0845 hours Cairo time, the first wave of Israeli aircraft attacked Egyptian airfields. Two hours and fifty minutes later, Nasser's air force had been destroyed. It took the Israelis another hour to deal crushing blows to the air forces of Syria and Jordan. By the afternoon of the first day of battle, Israel had achieved complete air supremacy over the Arabs[1].

Israeli airpower had destroyed the Arab air forces and set the stage for subsequent ground victory. The remainder of the week

saw Israeli armor and motorized units push beyond their borders to conquer a land mass three times Israel's original size. Israeli aircraft stalked the retreating Arab armies and disabled vast quantities of their Soviet-supplied military equipment. Israel's blitzkreig was so intense and the destruction of Arab armies so complete, the Arab nations eagerly accepted a United Nations' cease fire proposal after six days of fighting.

This short war was one of the most decisive and swift in the history of warfare. Military strategists the world over have hailed Israel's victory as a classic example of the employment of airpower to be thoughtfully examined by all serious students of modern warfare.

The Israeli Air Force had achieved an overwhelming victory over a combined Arab air force that outnumbered the Israelis, aircraft-for-aircraft, three to one.[2] Not only did the Arabs have the numerical advantage, they were equipped with modern Soviet aircraft that were at least compairable in quality to Israeli equipment. What enabled the Israelis to defeat this superior airpower? Certainly there must be many ingredients that contributed.

The impetus that carried the Israelis through the six days cannot be understood separately from the situation that had preceded the war. For a study of Israel's use of airpower in the Six-Day War to be fruitful, it is necessary to have a full appreciation of the factors that influenced Israeli preparation and the environ-

ment in which the war was to be fought. Only then can the employment of Israel's air force be examined for any lessons that might be learned on the use of modern airpower.

Purpose And Objectives

The overall purpose of this study is to examine Israeli use of airpower in the Six-Day War to promote a better appreciation of the strengths and weaknesses inherent in the use of modern airpower.

The primary objective of this paper will be to examine Israeli tactical employment of fighter-bomber aircraft during the Six-Day War. The use of these aircraft will be scrutinized in detail to identify, isolate, and analyze the major facets of Israeli employment techniques.

Another objective will be to investigate the character of the Israeli Air Force prior to the war. Conditions in the Middle East that influenced Israeli preparation and the steps taken by Israeli leaders to prepare their air force for this battle will be examined. Israel's choice of weapons, training programs, and strategic planning will be investigated.

Limitations

This study will examine the strategy and tactics employed by the Israeli Air Force during the Six-Day War. Only fighter-bomber tactics will be examined. However, the Vautour attack bomber and

Magister trainer will be considered fighter-bombers for the purposes of this study since they were used as such during the war. The employment of helicopters and transport aircraft will not be investigated. Due to time limitations, the investigation of air-to-ground tactics will be limited to an examination of the initial air strikes against Arab airfields, attacks on Egyptian SAM sites, and ground attacks against the Egyptian Army. Tactics employed against the ground forces of Syria and Jordan will not be investigated.

All tactics will be addressed in general terms since there is a lack of specific technical data available. Arab strategy and tactics will be examined only when they are reactions to the Israeli use of airpower. Israeli Air Force doctrine will not be compared with that of another air force.

The Middle East situation prior to the war will be examined only in light of its effects on Israeli military preparation. The areas of military preparation to be examined will be limited to Israel's choice of weapon systems, specialized tactical training programs, and strategic planning.

The sources for this paper will be limited to unclassified material available at the Air University, Maxwell Air Force Base, Alabama. Books, periodicals, and documents in the Air University Library will be used to gather background data, authoritative analysis, and information indicating military postures.

Assumptions

This study assumes that the Six-Day War was won by Israeli effort alone and that there was no direct outside intervention of allied powers. This paper also assumes that the war was fought with conventional weapons on both sides; that chemical, biological, or radiological arms were not used.

CHAPTER II

PREPARATION FOR WAR

The Israeli people have been faced with continuous threats of annihilation since their independence in 1948. They have had no choice except to create and maintain a strong military force to protect themselves from the Arab nations that surround Israel. A relatively small nation in size and population, Israel has been able to develop a powerful military machine with limited resources that has defeated the Arabs in three major conflicts and countless border skirmishes. They have been able to accomplish this by establishing clearly defined objectives for their military and maintaining a strict order of priorities.[1]

In the course of developing their military might, Israeli leaders placed primary emphasis on a powerful, offensive air force. They learned early that air supremacy over the battle field was their key to victory in war. In summing up the lessons of the Israeli War of Independence in 1948, General Yigael Yadin, then serving as Chief of Military Operations, declared that the Israeli Air Force made significant contributions to victory when it secured complete domination of the air over the Negev and Sinai. The destruction of Egyptian aircraft in surprise attacks on air bases

at Gaza and El Arish, combined with search and destroy operations against the enemy's supply lines, brought about the ultimate collapse of Arab forces in the South.[2] Again in 1956, there was no doubt that Israel's trimphant 100-hour dash to Suez was made possible by complete domination of the air, continuous tactical support to advancing ground forces, and interdiction missions behind enemy lines.[3]

The primary mission of the Israeli Air Force since its inception has been to gain air supremacy in the event of war in the Middle East by destroying the enemy's air forces on the ground.[4] An examination of Israel's choice of weapon systems and specialized training programs will give an indication of how Israeli leaders went about preparing their air force to accomplish this mission.

Why Fighter-Bombers?

Although credit for the exceptional state of combat readiness and achievements of Israel's air force in the Six-Day War go to General Mordechai Hod, Commander of the Air Force, it was General Ezer Weizmann who was the architect of the Israeli Air Force. It was General Weizmann's decision to devote such resources as the Israelis had to developing a strong force of versatile fighter-bombers rather than expend critical resources on a mixed force of bombers and fighters. He viewed the medium and heavy bomber as having little application to Israel's defense problems.[5]

Falklands may have confirmed this!

General Weizmann considered the bomber to be a relatively imprecise weapon, good for attacking urban and industrial targets but not capable of the pin-point accuracy needed for destroying small military targets. With her own population concentrated and vulnerable, Israel had no wish to start a war with the Arabs that involved bombing population centers.[6]

About 30 percent of Israel's population was concentrated in Tel Aviv and 12½ percent in Haifa. The flying time by jet from Cairo to Tel Aviv is as much as 20 minutes, perhaps more, but from Damascus or Amman it is not more than about 9 minutes. That being so, the main centers of Israeli population were extremely vulnerable to air attack, and the Israelis could reasonably expect such attacks from the Egyptians in the event of war.[7]

With the potential enemy within all-too-short range, General Weizmann recognized the fighter-bomber as the most flexible weapon system, good not only for providing close support for ground forces and destroying Arab aircraft on the ground, but also for intercepting enemy bombers and fighting MIGs.[8] He selected the fighter-bomber as the most efficient means of accomplishing the objectives set for the Air Force and concentrated on building up a sizeable force of these aircraft.[9]

The Israelis were interested only in simple, economical, straight foward aircraft. They were limited in resources and had a small regular air force with a high proportion of reservist. It was

therefore necessary to avoid ultra-sophisticated equipment. What Israel bought had to work under difficult conditions. The aircraft did not have to be capable of operating over long ranges, but they had to be able to fly many sorties per day and require very little maintenance.[10] The Israelis would have to achieve a much higher sortie rate than most air forces were capable of to counter the numerical advantage of the enemy. The goal was to tailor their military equipment to the potential threat and the nations ability to operate the equipment with a minimum drain on its economy and skill.[11]

Just prior to the war, the Israeli Air Force had a total of 350 combat aircraft, of which, 170 were front-line fighter-bombers of French make. In addition to the fighter-bombers, Israel's aircraft inventory included 60 Magister trainers that had been modified to carry an assortment of weapons and one squadron of 15 aging Vautour attack bombers. The Institute of Strategic Studies offers the following comparison of Israeli and Egyptian aircraft that opposed each other in the initial air battle:

Egypt	Israel
130 MIG-21	72 Mirage IIICJ
80 MIG-19	18 Super Mystere
150 MIG-15/MIG-17	40 Mystere IVA
40 IL-28	40 Ouragan
30 TU-16	15 Vautour
	60 Magister
430 Total	245 Total

Forced to utilize all of their resources, the Israelis modified the small Magister trainer, which has a maximum takeoff weight of 7,100 pounds and a top speed of 350 knots at low altitude, to carry a variety of ordnance. Although the Magister was not suited for the rigors of combat, it could fly ground support missions which would help to offset the imbalance in numbers.[12] The remainder of Israel's aircraft were sturdy, simple machines capable of accomplishing many varied missions. The armament selected for these aircraft will give an indication of their versatility and how Israel intended to employ them.

Armament

With faith in human skills rather than "black boxes," Israel selected unsophisticated armament for its aircraft.[13] Simplification of weaponry made it possible to attack airfields, armor columns, and engage in air-to-air combat all in the same sortie. Simplified armament systems were less expensive, more reliable, and eased the workload of ground crews for faster turn-around time of aircraft.[14]

The Israelis selected their armament just as they had their aircraft - considering versatility, the potential threat, and the economic drain. In negotiating with the French for the purchase of Mirage IIICJ interceptors in 1958-1959, the Israelis insisted on having two 30-mm cannons built into the planes although the aircraft had been originally designed to carry only missiles. The French

argued that with new sophisticated developments only missiles were needed for air-to-air combat. However, the Israelis had a dual purpose in mind. They wanted to use the aircraft not only as interceptors, but also for a ground attack role.[15]

Most of Israel's aircraft that played major roles in the Six-Day War were armed with cannons. The Mirage IIICJ, Super Mystere, and Mystere IVA were armed with two 30-mm cannons. The Curagan was armed with four 20-mm cannons while the Vautour attack bomber had four 30-mm cannons. Even the tiny Magister trainer had been fitted with two 7.62-mm machine guns in the nose. The Israelis considered the gun to be a most versatile weapon capable of the surgical precision needed for destroying small military targets on the ground, and the most effective weapon for low altitude, close-quarter air-to-air combat.[16]

In addition to the cannon, the Israelis armed their aircraft with unguided rockets. For attacking airfields and armored columns, they selected the 68-mm SNEB rocket, fired from underwing pods. A larger 80-mm rocket was also used to a great extent during the war. A large quantity of these weapons were captured from Egyptian airfields in the Sinai Desert and were used in attacking armored columns when it was found they were compatible with Israeli rocket racks. After the war, King Hussein of Jordan reported the use of a few fragmentation bombs in addition to cannon fire and rockets.[17]

The Israelis did not rely totally on the "traditional" types of ordnance. As early as 1964 they had initiated studies on a new bomb that could be delivered from a low level, high speed attack. Developed by Israel Military Industries, this bomb (the concrete dibber) was designed to be carried by the Vautour and Mirage IIICJ with release conditions of 300-500 knots, 330 feet above the ground. The bomb utilized a fuse that could be set to detonate as soon as the releasing aircraft had reached a safe separation distance, or it could be set with a variable time delay. The characteristics of this bomb indicate it was designed specifically for attacking runways. It had retro-rockets to brake it almost instantly upon release. The bomb then tilts downward and another rocket blasts it vertically into the ground. An earlier version, also used in the Six-Day War, had a braking drogue chute rather than retro-rockets. The bomb weighed a total of 1,210 pounds; however, the explosive foward section was a simple general-purpose high explosive warhead weighing only 795 pounds. Although this is a relatively small warhead, which made a crater of only one to two meters deep in a concrete runway, only a few were needed to put an airfield out of action.[18]

The Israelis had apparently selected their weapons with a definite objective in mind - to destroy the Arab air forces on the ground. Their training programs appear to have been designed with the same objectives in mind.

Training

It was General Hod who believed that training was one of the key ingredients which could be used to compensate for Israel's numerical disadvantage. He expected a plane flown by an Israeli pilot to out perform a similar plane in the hands of an Arab pilot. General Hod based the air force training programs on this concept.[19]

In 1966, with General Hod in command of the Israeli Air Force, new tactics were introduced into their training programs. He foresaw ground attacks by no more than four aircraft per target and aerial combat by no more than two planes at a time, regardless of the enemy's strength. General Hod reasoned that every pilot should have a wingman to keep an eye on his tail. Apart from that, it mattered little if he encountered five or fifty enemy aircraft in the air. With the supersonic capability of the Mirage, the pilot could start or break off action at will. Israeli Air Force tactics and training programs were in fact based on the premise that Israeli pilots are superior to enemy flyers.[20]

General Hod credits intensive specialized tactical training as contributing to the overwhelming success of the Israeli air attacks. This training included mock combat with a Soviet MIG-21 (flown to Israel in 1966 by a defecting Iraqi pilot) and practice attacks against simulated airfields and armored columns.[21]

The captured MIG-21 gave the Israelis an excellent appraisal of the performance capabilities of Soviet-built aircraft. Top Israeli pilots were selected to fly the MIG-21, giving them first-hand knowledge of the aircraft and making it a better match for Israeli pilots engaging it in mock air-to-air combat.[22] However, the primary emphasis of Israeli aircrew training appears to have been placed on the ground attack role.

One senior Mirage IIICJ pilot (Israel's primary air superiority fighter) reported that the majority of his squadron's training before the war involved strikes against dummy aircraft on the ground and simulated armored columns. The remainder of their training was devoted to air-to-air combat tactics.[23]

In their ground attack training, aircrews used live ammunition to a great extent on simulated airfields and armored columns located on gunnery ranges in the desert.[24] There are four or five of these ranges located in the Southern Negev which have each been hit with several thousand bombs in practice raids. At least once a year the Israeli Air Force conducts a full-scale practice strike on these targets. As a result, when it came to the real thing not one Israeli aircraft failed to deliver its ordnance on target. Israeli pilots had been practicing this sort of attack for years and had developed their own special techniques for hitting runways, parked aircraft, and armored columns.[25]

Detailed debriefings of individual pilot effectiveness were

conducted after each training flight. During these debriefing sessions, pilots were encouraged to give suggestions for improving their tactics. Many of these were incorporated into individual squadron training manuals.[26]

Israeli aircrews had been trained with a clearly defined plan in mind - the destruction of Arab aircraft on the ground. The plan had to work perfectly because it had been rehearsed over and over again until every man knew exactly what he had to do.[27] The execution of the plan by the pilots (average age 23) was a vital link in the chain of success.[28] It reflected an unusually high degree of individual ability and years of training. After the war, General Hod said: "Normally we expect results in war to be some 25 less than in peace-time exercises, because of the excitement of the situation and because of the distraction of anti-aircraft fire. As it turned out the results were even better than in the peace-time practices."[29]

The Israelis would have been satisified with each aircraft sortie destroying one enemy plane. In fact, the actual figures were usually many times that expected. On one occasion two Israeli pilots destroyed sixteen Egyptian bombers on the ground in the space of four minutes.[30] It is generally agreed that Israeli aircrew performance, as far as accuracy is concerned, was considerably more accurate per sortie - per mission than requirements of other air forces. The number of targets successfully destroyed for each

sortie was probably five to six times greater than could be expected from the United States Air Force or the Royal Air Force.[31]

Quality of manpower and a high level of training played its part not only in the air, but also equally as well on the ground. Perhaps the most striking example of the high degree of training that prevailed in Israeli ground crews was a demonstration put on in early 1967 for the benifit of the air attaches of the foreign embassies in Tel Aviv. A squadron of Vautours landed and taxied in pairs up to the ramp. A stop watch had been started the second they touched down. Within 7½ minutes the aircraft had been refueled, resupplied with oxygen, 10 bombs hung from their wings, and they were airborne again. General Hod suggested that this was only a demonstration and that in many cases, turn-around times were even less during the war.[32]

To turn around modern combat aircraft in seven to eight minutes and to keep up a maximum sortie rate for six days, requires tremendous skill and coordination. General Hod has remarked since the war: "At 0745 Monday morning the serviceability of our combat aircraft was better than 99% and we maintained that level of serviceability throughout the week of the war." Even though many of the Israeli aircraft recieved battle damage, they were quickly repaired and back in the air for another mission. General Hod declared: "Although it might have taken up to an hour to patch up holes in one or two of our aircraft, at no stage was any of our aircraft

unserviceable, if you exclude our losses."[33] An implied tribute to both pilots and ground crews was that once in the air, there were no aborts recorded for any Israeli strike aircraft.[34]

This incredible maintenance capability, the intensive training of aircrews, and the choice of weapons were all ingredients that contributed to Israel's success in the Six-Day War. However, it was Israel's strategy that was to mold these ingredients together and make the Israeli Air Force a winner.

CHAPTER III

STRATEGY - 1967

The previous chapter examined a few of the steps Israeli Air Force leaders took in preparing their weapons and airmen for this war. It was apparent that they had selected their equipment and trained their men with a definite plan in mind. This chapter will examine this plan and the strategy behind it.

Moshe Dayan

Having been confronted with threats of annihilation for the entire existence of their state, the Israelis obviously had brilliant contingency plans. However, when General Moshe Dayan became Israel's Defense Minister, just a few days before the war, he significantly broadened the strategic objectives of these plans. It was reliably reported that he scrapped a plan to seize only Gaza and use it as a trading point for free access to the Gulf of Aqaba. Instead he gave orders to take all of the Sinai Peninsula.[1]

Dayan was well prepared for the job of Defense Minister. Weeks before the war, sensing trouble, he toured Israel's defense positions. Curiously, on taking office, Dayan made a statement that probably lulled the Arabs into believing the Israelis would not

attack: "It is either too early or too late," Dayan said. "Either we should have reacted (to the Arab blockade) right away, or we should wait and see what are the results of diplomacy."[2]

Dayan was to give strategic focus to the Israeli campaign. A devoted student of Von Clausewitz, Dayan had been the major architect of Israel's stunning victory in the Sinai Campaign of 1956. It was then that he demonstrated his philosophy on modern warfare - using the elements of speed, surprise, and mobility with great success.[3]

The strategy Dayan would follow in 1967 would be fundamentally different than that of the 1956 Sinai Campaign. That war had started out on a low key in order to convince the Egyptians it was a retaliatory raid. The Israeli Air Force had been held in check while small armored columns penetrated into Sinai.[4] Later the restrictions were lifted from the Air Force and eight enemy aircraft were shot down in air battles. The Israelis considered this victory incomplete because many Egyptian aircraft were flown to the sanctuary of neutral Sudan and to Saudi Arabia. However, had the Israelis crushed the Egyptian Air Force in the way they wanted, it is doubtful that it would have had a significant effect on the outcome of the war.[5] The Egyptian Air Force was considerably smaller in 1956 and massive air attacks on Egyptian airfields probably would not have had much effect on the war.[6] But 1967 was another story, for both the Israelis and Egyptians had powerful air forces capable

of delivering decisive blows to their enemies. Dayan did not intend to make the same mistakes that had been made in 1956. He had no intentions of letting the Arab aircraft escape this time.

Battle Plan - 1967

The strategy behind the initial phase of the Israeli battle plan of 1967 called for massive, surprise air strikes on Egyptian airfields in hopes of catching Nasser's air force on the ground. The primary objectives of the first strike were to make the runways unusable and destroy as many MIG-21s as possible. The MIG-21s were considered the only Egyptian aircraft capable of effectively preventing the Israeli Air Force from achieving its immediate major goal - the destruction of Egypt's long-range bomber force which posed a threat to the civilian population of Israel. As it turned out, a large number of MIG-21s were destroyed as they were about to takeoff.[7]

Target priorities were established for Israeli pilots. First, runways were to be bombed to prevent Egyptian aircraft from taking off. Second, MIG-21s were to be destroyed to protect the future operations of Israeli attack aircraft. Third, Tupolev TU-16 medium bombers and Ilyushin IL-28 light bombers were to be destroyed to eliminate their threat against Israeli cities. Fourth, MIG-15, MIG-17, MIG-19, and SU-7 fighter-bombers were to be destroyed to protect Israeli ground forces.[8] Egyptian radar units were to be hit

as targets of opportunity during the first strike in order to nullify the Egyptian air defense network. Although a total of 23 Egyptian radar sites were put out of action by the Israeli Air Force, priority was not given to these targets until complete air supremacy had been achieved on Monday afternoon.[9]

Orders permitted air-to-air combat only when Israeli aircraft were intercepted in the course of attacking airfields. "If you have to resort to dogfights you have failed, for you should get them on the ground," is the Hod doctrine.[10]

No attempt to suppress anti-aircraft fire was to be made since that would divert ammunition needed for attacking grounded aircraft and increased the chances of losing aircraft to ground fire. Base facilities were not deliberately hit during the initial attacks for the same reasons.[11]

Israeli strategy called for using the bulk of their front-line aircraft in the initial air strike. No aircraft were to be left in reserve as backup for new targets. The Israelis were counting on ground controllers being able to shift targets of airborne strike aircraft if a higher priority target was identified once the strike force had been launched.[12] Only twelve of Israel's front-line planes would be left behind to guard their air bases - eight flying top cover and four on standby alert at the end of the runway.[13]

In preparation for the massive strikes to come, two weeks prior to the war, the Israeli Air Force limited the flying of its combat aircraft in order to push the maintenance availability level up as close as possible to 100 percent. Exceptions were made only for the youngest pilots and recalled reservists who flew intensive training missions to build up their proficiency.[14]

The strategy behind the Israeli battle plan was based on a good knowledge of the enemy's military capabilities and his personal habits and idiosyncrasies.[15] Egypt, with its then-powerful air force, was the major threat to be eliminated first. Jordan, Syria, and Iraq were thought to be unable to inflict any major damage on Israel and could be dealt with after the destruction of the Egyptian Air Force.[16] The Israelis estimated they had about two to three hours in which to deal with the Egyptians before being confronted by the air forces of the other Arab nations. As it turned out, they had four hours.[17]

The highly regarded Israeli intelligence service had pinpointed the location of almost all of the Egyptian squadrons. Even though reconnaissance flights over Egypt were canceled during the week before the war to avoid jeopardizing peace negotiations in the United Nations, Israel air force planners were informed of the number and types of aircraft that could be expected at each Egyptian airfield. This information enabled the Israelis to launch the initial air strike against the bases housing the top-priority bombers and MIG-21s.[18]

Israel's choice of time for the initial air attack gives a further indication of their superb knowledge of the enemy and the environment they would have to operate in. The Israelis reasoned that 0745 hours for the initial attack would have the following advantages:

1. The Egyptian alert was past its peak. Ever since the Egyptians had begun their troop concentrations in Sinai three weeks before, they had several flights of MIG-21s on runway alert at dawn every morning. They were also flying MIG-21 airborne patrols at dawn, the most likely time of day for the Israelis to attack. However, it was calculated to be most unlikely that the Egyptians would remain on this high state of readiness indefinitely. When no attack materialized within a few hours after dawn the Egyptians would more than likely lower their alert status. The Israelis felt it safe to assume by 0730 the Egyptians had lowered their guard.[19]

2. Most attacks usually occur at dawn. But since pilots have to start preparing for a flight about three hours before takeoff, that meant the Israeli pilots would have had to get up around midnight or in fact get no sleep at all that night. By the end of the first day they would have had no sleep for 36 hours with the whole night and possibly the next day of action ahead of them. By making the first attack at 0745 the pilots were able to sleep until 0400 or so. This was essential because many of the aircrews were to fly up to seven or eight sorties the first day.[20]

3. At this time of year there is a morning mist that covers much of the Nile, the Delta, and the Suez Canal. By 0730 this mist has just about disipated. Around 0800 the weather is usually at its optimum. The visibility is at its best and there is very little wind, which is important when it comes to placing bombs accurately on runways.[21]

4. Finally, 0745 (Israeli time) is 0845 Egyptian time. Egyptians normally get to their offices around 0900 in the morning. Attacking 15 minutes before 0900 would catch many of the high ranking Egyptian officers and operational commanders enroute to their offices. This would leave the Egyptians without their key decision makers at the critical time.[22]

Israeli strategy called for the results of the air battle to be kept secret as long as possible. Israel did not want the Soviet Union coming to the aid of the Arabs. Nor did they want the United Nations Security Council passing cease fire resolutions until heavy losses had been inflicted on Nasser's army and Israeli ground forces had gotten deep into Egyptian territory.[23]

A remark made by General Hod best sums up the strategy used by the Israeli Air Force in attacking the Egyptian Army: "We didn't make the mistake we made in 1956. Then we attacked them from the eastern end of Sinai and they got away with much of their equipment. This time we blocked the western end of the Mitla at the outset, blocking their escape route; then we hacked them from west to east."[24]

Israel's battle plan was made up of a series of sequential steps, each depending on the one that preceded it. The major threat, the Egyptian Air Force, was to be eliminated before attacking the air forces of Jordan, Syria, and Iraq. The enemy's runways were to be bombed first. Once that was accomplished, grounded aircraft were to be destroyed. Only after complete air supremacy was gained, would any air effort be devoted to ground force support. When the air effort was turned to support the ground forces, the first step was to block the escape routes of the Egyptian Army. Each of these steps had to be completed before moving on to the next. Israeli strategy therefore, might be called a sequential strategy. But, by any name, the Israeli Air Force was to execute its moves with such finesse and impertinence as to astound even the non-Arab strategic and tactical experts.[25]

CHAPTER IV

SIX DAYS

Prior to the Six-Day War Israel's military strategy was largely fixed by geography and modified by the composition of Arab forces arrayed against her. One of the few strategic elements left to Israel was timing. The Israelis could make a choice between waiting for the Arab attack they felt was sure to come or strike the first blow themselves.

This decision was provided by no less than Egypt's master strategist, Mr. Gamal Abdel Nasser. He managed with his repeated threats of total annihilation, to persuade the Israelis they had no choice except to strike the first blow in order to survive.[1]

The Israeli Air Force was now called upon to put its men and weapons to the actual test of combat. The success of their battle plan depended on the effectiveness of their fighter-bomber force. This chapter will examine the tactics employed by the Israeli Air Force during the Six-Day War.

The Initial Air Battle

The first wave of the Israeli strike force was divided into ten flights of four aircraft each. One flight for each target. These

flights made their way to their assigned targets by various routes. Some probably took a direct route from the central Israeli airfield complex around Tel Aviv (Lod, Hartzow, Ekron, and Ramat David) to strike at Egyptian airfields in Sinai. Others had headed west after takeoff sweeping out over the Mediterranean Sea, hooking from the right, to hit targets around Cairo from the northwest.[2] From Hatzerim in the Negev Desert, Israel's southernmost airfield, Vautour attack bombers took off and headed south down the Gulf of Aqaba, just clipping Saudi Arabian airspace. The Vautours were scheduled to strike Luxor, far up the Nile, and Ras Banas, far south on the Red Sea coast.[3] The ingoing route of each flight had been carefully planned to avoid detection by Egyptian radar.[4]

The radar equipment supplied to Egypt by the Soviet Union is, contrary to popular opinion, quite good. However, Israeli intelligence had been studying its height capabilities and systems of alert for years and had found gaps in its coverage.[5] By planning their routes through these gaps and keeping extremely low, probably no more than 30 feet above the ground, Israeli aircraft avoided radar detection. The Egyptian radar network was to give little or no warning at all. But the Egyptians did not have the only radar system the Israelis had to avoid.[6]

In order to avoid detection by Jordan's radar site at Ajlun and the possibility of Jordan warning Egypt of the impending attack, Israeli aircraft departing airfields around Tel Aviv had kept low in

the radar shadow of the Judean Hills.[7] This tactic could very well account for Hussein's initial conviction that British or United States carrier based aircraft had taken part in the air attacks.[8] "We went in right on the deck," General Weizmann said later.[9]

Although fuel was a critical factor for the Vautours, their mission profile was also planned for a low level dash to the target to avoid radar detection and achieve the element of surprise. Loaded with maximum fuel and minimum armament, these aircraft climbed to their optimum single-engine altitude and shut down one engine. They cruised on single-engine power to conserve fuel until reaching a pre-planned decent point. Glide decents were made and the second engine restarted for a low level run to the target beneath Egyptian radar coverage. A simular return profile, again to conserve fuel, enabled the Vautours to reach Luxor and Ras Banas undetected.[10]

The Israelis employed other techniques to achieve maximum surprise. The first wave of the strike force had been ordered to maintain complete radio silence enroute to the target. This prevented the Egyptians from detecting the attacking aircraft through their voice communications. Another surprise tactic employed was to adjust takeoff times so that the major Egyptian airfields would be struck at precisely the same moment.[11] Of the first ten bases to be hit, nine were in fact attacked at exactly the same time while the tenth, Fayid, was bombed a few minutes later. There was a slight delay in hitting Fayid because it was covered with low clouds.[12]

As the first wave of the Israeli strike force hit their targets, the second wave was only ten minutes behind and the third was just getting airborne. Each flight had seven minutes over the target. The seven minutes allowed for one bomb run and two or three strafe passes. A three minute leeway was scheduled between flights for navigational errors or should the need arise for an additional pass on the target.[13]

Approaching the target at .85 to .90 mach, the flights carrying the new concrete dibber pulled up to 200-500 feet to make their bomb delivery. Normally the first attack-heading was planned for an approach alligned with the runway. This tactic allowed the pilots to make their bomb run down the length of the runway which would help minimize range errors. From the low altitudes that these bombs were delivered, azimuth errors caused by pilot error or cross winds were minimal. In addition to obtaining a high degree of accuracy from this delivery method, it also alleviated the requirement to fly down the barrels of enemy anti-aircraft guns as is required in a normal dive bomb attack. However, the Israelis did not rely totally on the concrete dibber, possibly because it had not been used before in actual combat.[14]

Some aircraft were loaded with 500 and 1,000 pound general purpose bombs. These aircraft approached their targets at low altitude and executed a pop-up maneuver to make a normal conventional dive bomb attack from 5,000-6,000 feet. In either case, the objec-

tive was the same, crater the runway on the first pass to prevent aircraft from taking off. This tactic was to prove its worth before the morning was over, for many of the Egyptian bases attacked had MIG-21s taxing for takeoff when the Israelis struck.[15]

Pulling off the target from the bomb run, free of underwing stores, Israeli aircraft entered a cloverleaf pattern over the target to make multiple strafe and rocket runs on grounded planes. Although the initial bomb run was made at high speed, subsequent strafe and rocket passes were sometimes made at slower speed for greater accuracy.[16] There were reports that some Israeli aircraft had lowered their landing gear and flaps to achieve slower speeds. However, this is a highly questionable procedure in most modern fighter aircraft, particularly over heavily defended targets.[17]

Israeli aircrews usually made their strafe and rocket attacks at low altitude and minimum firing range. The purpose was apparently two-fold. At minimum firing range, cannon fire and rockets are very accurate and the probability of destroying parked aircraft was nearly 100 percent. In addition to achieving a high degree of target destruction, the minimum range was used to avoid wasting ordnance on decoy aircraft. The Israelis reported that at close range, Arab decoy aircraft were usually discernible and little ordnance was expended on them.[18]

At more than one Egyptian airfield the Israelis had destroyed all of the aircraft, but left the decoys untouched. When questioned

if this was because they were poor dummies or good intelligence, one Israeli officer reported that it was a combination of both. He also added that at Abu Sueir, near Ismailia, they had hit some of the dummies as well as aircraft, but on Sinai airfields where their intelligence was better, there were no mistakes.[19]

The consistent avoidance of plywood decoys and fantastic accuracy against real aircraft lead to some conjecture among the press that Israel possessed a new "metal-homing" weapon. However, it is doubtful that these decoys would have fooled trained pilots at close range. The dummies examined at the captured airfield of Jebel Libne had an excessive tail-down stance, exaggerated dihedral and, most obvious, they were located in conspicuous locations.[20]

Photographic evidence indicates that the Egyptians increased the effectiveness of Israeli attacks by parking their aircraft in neat rows, close together, fueled and armed, ready to explode in chain reaction from a single hit.

Although Israeli tactics proved to be very effective against these targets, they were not used without losses. At least two of the Israeli aircraft lost in the first wave were downed by explosions of enemy aircraft they were attacking.[21] If it was common practice to fire at minimum range, it is surprising the Israelis did not lose more aircraft, because it must have been extremely difficult to avoid the debris of exploding targets. Anti-aircraft fire must have also taken its toll at these operating altitudes.

The Israelis reported that large caliber anti-aircraft fire was effective when it was used, but that many of the gun emplacements were unoccupied during the initial air strikes. The attacking aircraft did encounter a large amount of effective small arms fire and Dayan claimed that not one Israeli aircraft had escaped being hit on the first wave.[22] However, by achieving complete target destruction and eliminating the requirement for subsequent sorties, these losses were considered minimal by the Israelis. To insure the Egyptians could not recover from the initial blow and initiate even a token attack against Israel, the Israelis continued their attacks until total destruction of the enemy was achieved.[23]

For 80 minutes the Israelis attacked Egyptian airfields. Then after a 10 minute pause, there was another 80 minutes of continuous Israeli air attacks. In 2 hours and 50 minutes the Israelis estimated they had destroyed over 85 percent of Egypt's operational combat aircraft.[24] The Egyptian offensive potential had been eliminated and the Israelis had lost only 19 of their combat aircraft.[25]

Most of the Egyptian aircraft destroyed had been on the ground. Although a few managed to get airborne after the battle started, the only Egyptian fighters flying at the time of the initial air strike were four unarmed MIG-21s on a training mission.[26] A total of 19 Egyptian airfields were attacked and their runways severely damaged with the exception of the runway at El Arish. This runway was left intact so it could be used as a foward supply base.[27]

A little before noon on Monday, about four hours after Israel's initial attack on Egypt, the Syrian Air Force attacked the Israeli oil refinery in Haifa Bay and the airfield at Megiddo. The attacks were minor, but Israel was now in a position to turn her full strength on her new enemy. The Syrian airbase at Damascus was struck.[28]

Jordan also attacked around noon at Israel's satellite airfield at Kefer Sirkin. Israel retaliated by bombing Jordan airfields at Mafrag and Amman.[29] Taking part in this attack was a flight of four Mysteres that had been originally scheduled to attack the Egyptian airfield at Fayid. When the Mysteres discovered all the targets at Fayid had been destroyed, Israeli ground controllers diverted them to attack the airfield at Amman.[30] The ability to divert aircraft to a new target, which was over 230 miles from the original target, reflects a high degree of operational flexibility. Israeli ground controllers were reported to be very good at absorbing and integrating new target information into the operational plan, then relaying it quickly to pilots in the air.[31]

Just before dusk Monday, the Israelis revisted most of the Arab airfields struck earlier in the day. They seeded many of the runways with delayed-action bombs that would detonate periodically throughout the night. This tactic prevented any attempt to repair the cratered runways.[32] The Israelis continued their attacks against these airfields throughout the night with the aid of flares.[33] Again

the next morning, another visual sweep of Arab bases was accomplished to check for any new activity.[34]

On Tuesday morning, the Iraqi Air Force entered the war by attacking the Israeli town of Natanya.[35] Israel reacted by bombing the airfield at Habbaniyah and destroying six Iraqi aircraft.[36] The Iraqi Air Force had been alerted of the impending attack and were ready for the Israelis. The Israeli strike flights did not have top cover and were attacked from above by eight Iraqi Hunters that were waiting over the airfield. During the air battle that followed, three Israeli Mirages were reported to have been shot down as against only one Hunter claimed by the Israelis.[37]

At the end of the second day, the Israelis had destroyed a total of 416 Arab aircraft. Israeli losses at this time amounted to 26 aircraft, including 6 Magister trainers.[38]

Although there is a wide variance in the number of sorties reportedly flown by the Israelis in the first days of the war, it is known that they flew an incredible number in relation to the number of aircraft they possessed. The initial 170 minutes of continuous air attacks on 19 Egyptian airfields must have required a staggering number of sorties. A look at the amount of time involved on a typical Israeli mission demonstrates how this was achieved. The mission profile for aircraft attacking targets in the vicinity of the Suez Canal would have been as follows:

Time to target:	22½ minutes.
Time over target:	7 minutes.
Return to base:	22½ minutes.
Turn-around time:	7½ minutes.
Total:	59½ minutes.

This meant that it was possible for an aircraft to be back over the same target within one hour.[39]

The significance of Israeli sortie times is best reflected in a speach made by President Nasser on June 9: ". . . it was a stronger blow than we expected . . . it was much stronger than his resources allowed . . . . It can be said without fear of exaggeration that the enemy was operating an air force three times its normal strength." This reference to the Israeli Air Force having three times its normal strength is no doubt based on President Nasser's estimates of the turn-around times of his own air force. The Israelis learned from top secret plans captured at El Arish that the Egyptians planned on their aircraft being overhead their targets every three hours. This gave Egyptian aircraft a ground time of more than two hours between sorties.[40]

In the first two days of operations, the Israeli Air Force had accomplished two important strategic objectives. Israeli fighter-bombers had eliminated the bomber threat to their homeland and gained complete control of the airspace over the tactical battle-field.[41]

Air-To-Air Tactics

In the course of gaining air supremacy, the Israelis reported 64 air-to-air engagements with Arab aircraft. The Israelis claim to have shot down 50 enemy aircraft in these air battles without sustaining a single loss themselves. General Hod insisted: "In actual dogfights between aircraft the score was 50-nil. We shot down 50 MIGs in aerial combat without losing one single one of our aircraft." However, these statistics do not include some Israeli aircraft that were in fact shot down by Arab planes. Israeli aircraft that were lost to MIGs while attacking ground targets were not credited by the Israelis as losses in the air-to-air category. For instance, the three Mirages lost to Iraqi Hunters over Habbaniyah were not counted as aerial combat losses. Although the number of Israeli aircraft lost in this manner has not been determined, it appears to be a small percentage of the 30 planes lost in the war. The 50 Arab kills include a large number of aircraft shot down by Israeli pilots that had completed their primary mission - bombing Arab airfields.[42]

There were a few cases of Israeli strike aircraft being diverted from their targets to engage enemy planes, but this was in the later phases of the war. In the initial phase, Israeli aircrews were instructed to take evasive action to avoid dogfighting until their primary target had been hit. After attacking their assigned

targets, pilots were free to fight with enemy aircraft and they usually tried to keep a reserve of ammunition in their cannons for this purpose. Keeping this reserve, proved to be a very effective technique, for many of the MIGs shot down were engaged after the Israelis had completed their bombing attacks.[43]

Although the Israelis have not identified specific air-to-air tactics employed against the Arabs, numerous reports given by Israeli aircrews indicate that they normally operated in flights of four aircraft. Once enemy aircraft were engaged, the Israelis tried to stay in elements of two aircraft each, but when the shooting started, each pilot was on his own without the protection of a wingman. Israeli flyers considered Arab pilots to be so inferior it was very unlikely they would be capable of gaining the advantage once combat maneuvering had started. The Israelis said it appeared the Arab pilots were not trained to fly their MIGs at maximum performance. The Israelis reported it was a simple matter to maneuver behind the less aggressive Arab pilots.[44]

The Israelis claim that all of the Arab aircraft shot down in air-to-air combat were hit with cannon fire. There were a few accounts of the Israelis firing missiles, but all missed their targets. The radar-homing R530 missiles were put aside because ground clutter made them ineffective at the low altitudes where most of the aerial combat took place. Accounts of the fighting indicates the majority of the air-to-air engagements took place at

very low altitude and minimum firing range where the Israelis found their cannons to be very effective.[45]

SAM Tactics

The Soviet-built SA-2 surface-to-air missile (SAM) did not pose a serious threat to Israeli efforts to control the air at any time during the war.[46] The Israelis reported that several missiles were fired at their aircraft, but they credit only one possible loss to a SAM hit. The Israelis found the most effective evasive tactic to be a tight, diving turn towards the direction of the missile. This maneuver enabled the pilot to keep the missile in sight while decending to a low altitude where the SAM guidance system was ineffective. In evading two SAMs, a Mystere IV pilot said he had turned hard into the missiles and then dove under them.[47] The Israelis reported that the SAMs were ineffective below 3,000 feet and they considered the threat so minor that they did not seriously attack any missile sites until the third day of the war.[48]

As the Egyptian Army retreated westward in the Sinai Peninsula and Israeli aircraft followed, it was decided to destroy the SAM sites along the canal.[49] The Israelis found these sites to be heavily defended with anti-aircraft guns of all types. The Egyptians used the same sort of ring emplacement pattern for their defensive guns as used by the North Vietnamese. The first requirement in attacking these sites was to hit the radar unit. The intent was to blind the

site on the first pass. The attackers would approach from low altitude and pop-up to dive bomb the radar unit with 1,000 pound bombs. After dropping their bombs, the aircraft made high-speed low level strafe attacks. Normally the individual missiles were ignored and all ordnance was expended on the radar unit and its support equipment.[50]

Ground Support - Egyptian Campaign

For the first two days of the war, the Israeli Air Force had concentrated on gaining total air supremacy. On the third and fourth day, they were called upon for massive ground support missions with the primary effort directed against the Egyptian ground forces in the Sinai Peninsula.

Although most of the Israeli air effort was directed towards ground support after achieving air supremacy, there appears to have been very little close coordination between ground forces and the Air Force in the Egyptian Campaign.[51] Close support missions were possibly kept to a minimum because of the confusion on the ground. Israeli motorized and armored units were penetrating deep into enemy lines and there was a good chance friendly forces would be hit. Rather than provide direct close support to ground forces, Israeli aircraft operated freely over the Sinai Peninsula, flying search and destroy missions.[52]

There were two factors that appear to have made the search and

destroy mission the most profitable use of airpower against the Egyptians. First, the military situation was ideal for this type of operation. There was a continuous stream of Egyptian troops, vehicles, and armor rushing headlong from the eastern and central Sinai Peninsula towards the Mitla Pass. Due to a breakdown in communications, the Egyptians had no idea that the western end of the pass had been blocked by an Israeli air strike that prevented all but tracked vehicles from passing. As the Egyptians converged on the pass from all directions the Israeli Air Force was able to concentrate its fire power on the Egyptians with very effective results.[53]

Another factor that made the search and destroy mission "pay off" was the favorable topographical features of the Sinai Peninsula. Sand dunes in the north and mountains in the south generally restricted all but tracked vehicles to the roads. When Egyptian vehicles did travel off the roads they left dust plumes that could be seen for twenty miles from the air. There was very little natural cover for the vehicles and they were easy to find outlined against the severe beige sand of the desert. Israeli aircrews were given briefings on the location of the bomb line just prior to each flight and they were free to attack at will beyond that line.[54]

The first requirement before attacking armored columns was to make an identity pass. Again this was necessary because Israeli armor units were moving fast and operating deep behind enemy lines.

Israeli aircrews found that although a vehicle was much easier to hit if it had stopped, they preferred to attack moving vehicles because they could spot them much easier from their dust plumes and it identified the vehicles that had not been previously hit and were still operational.[55]

The post-battle view of the 16 mile long road that goes through Mitla Pass serves as the best testimonial to the effectiveness of the Israeli Air Force. This area has often been referred to as the grave yard of the Egyptian Army. The entire length of the pass was strewn with charred wrecks of hundreds of Egyptian armored vehicles and tanks, a grim reminder of the effectiveness of modern airpower.[56]

On the fifth and sixth day of the war Israeli airpower was turned against the armies of Jordan and Syria with the same decisive results. By the end of the sixth and last day of the war, the Israelis had achieved a victory that was beyond their wildest expectations.

CHAPTER V

THE USE OF MODERN AIRPOWER

In order to determine what lessons might be drawn from Israel's successful use of airpower in the Six-Day War, the environment that influenced the Israelis in their military preparation was examined. In the course of this investigation, it became evident that the Israeli Air Force had clearly defined, but relatively limited objectives to accomplish. This enabled the Israelis to select their weapons, train their airmen, and plan their strategy in terms of exact goals and the known capabilities of the enemy. The Six-Day War found the Israelis equipped with a small component of flexible fighter-bomber aircraft that had been modified to meet Israel's narrow needs. The armament selected for these aircraft consisted of unsophisticated, but versatile weapons adapted to the specific environment in which they were to be employed. Israeli aircrews were found to be thoroughly trained in tactics designed to accomplish their mission. The strategy behind Israeli planning was relatively simple in terms of the limited objectives.

The next step was to examine the tactics employed by Israeli fighter-bombers. In the course of this investigation, no new or startling innovations were discovered. Rather, it was evident that

the Israelis had used "traditional" tactics employed by most modern air forces.

There are many conclusions that can be drawn from the Six-Day War and cited as the reasons for Israel's decisive victory. However, care must be exercised to not apply these conclusions with sweeping generalities to the use of modern airpower. The Six-Day War was a conventional war with its own unique environment and set of circumstances.

Conclusions

The following conclusions are offered as applicable lessons that can be drawn from Israel's employment of airpower in the Six-Day War:

1. The total air supremacy achieved by the Israeli Air Force at the very beginning of the war undoubtedly played a vital role in Israel's victory. Israeli ground forces were free to operate without fear of enemy air attacks. In contrast, the Arab ground forces were subjected to constant aerial attack from Israeli ground attack aircraft. The scene at Mitla Pass serves best to remind the military commander of the terrible effects of airpower on ground forces, particularly in arid or simi-arid climates. This war has reiterated the fact that air supremacy over the battlefield is essential in conventional warfare.

2. Israel's correct evaluation of the environment enabled them to select the best weapon systems for this type of war. The

decision to arm their aircraft with large caliber cannons proved to be a decisive factor in their favor. The large number of MIGs (both on the ground and in the air) and armored vehicles destroyed by Israeli guns highlights the effectiveness of fighter-bombers armed with large caliber cannons.

3. The Israelis had emphasized the capabilities of man rather than the electronic "black box." They used the highly motivated and thoroughly trained airman to maximize the effectiveness of their weapon systems. The consistent high degree of accuracy and the fact that not one Israeli pilot missed his target on the initial air strike speaks for the ability of the Israeli pilots. These highly motivated and skilled airmen made multiple attacks at minimum firing range in heavily defended areas to insure complete target destruction. Some of these aircrews flew up to eight combat sorties the first day. The vast number of sorties and incredibly short turn-around times indicates the same high degree of motivation and training existed in the maintenance personnel. General Hod said: ". . . the military world has become a victim of its own sophistication in weaponry . . . . It has forgotten that brains, nerve, heart and imagination are all beyond the capability of the computer. No computer can go 'beyond the call of duty' . . . ."[1] Israel's victory over the numerically superior Arabs must be contributed largely to the skill, motivation, and training of Israeli airmen.

4. The Israeli intelligence service contributed significantly to Israel's success. The extensive and detailed information on the Arab military posture enabled the Israelis to plan the first strike down to the last minute detail. Israeli knowledge of the exact location of each Egyptian squadron allowed them to strike the airfields which constituted the top priority targets. Their thorough knowledge of the Arab defense systems enabled the Israeli flyers to avoid detection and achieve the element of surprise. The Israeli intelligence service had even provided the pilots with the exact parking location of aircraft and decoys in some cases. Intelligence was another of the elements the Israelis used to derive maximum effectiveness from their weapons.

5. Israel's military success can also be contributed to the fact that, unlike most recent wars, there was little or no political restraint placed on the use of military force. Once the decision was made that diplomacy could not resolve the confrontation with Egypt to Israel's best interest, the military was given complete freedom to use whatever force they deemed necessary to obtain a satisifactory solution. This enabled Israeli military leaders to apply the time-proven principles of war. Therefore, the Six-Day War might be termed an unlimited war with military rather than political control.

Observations

Although it is very unlikely the United States will become involved in a similar conflict, there are some valuable and applicable lessons that can be drawn from the Six-Day War.

1. Weapons, strategy, and tactics must be carefully matched with the environment in which they will be employed. Military planners must conduct a continuous evaluation of the military environment to insure weapon systems and doctrine are compatible with national objectives.

2. The effectiveness of modern weapon systems cannot be maximized through technology alone. Man is still the key element and only through discriminating selection and thorough training of aircrews will maximum effectiveness be possible.

3. Motivation is a dynamic and intangible asset. The potential contribution of moral should not be underestimated by military planners.

4. The most important and probably the most obvious lesson that can be drawn from this war is that unsheltered aircraft depending on long fixed runways are extremely vulnerable to destruction on the ground. Adequate warning to protect vulnerable airfields and aircraft from the pre-emptive attack cannot be relied upon. The Egyptian radar network failed to provide adequate warning of the impending attack and as a result, the Egyptian Air Force was

destroyed on the ground. Discounting the political implications, there are present day parallels to the Middle East situation where a pre-emptive air strike could result in heavy losses for the United States Air Force. United States' airfields in South Vietnam, Thailand, South Korea, and Europe are extremely vulnerable to the same type of action taken by Israel against the Egyptians in 1967.

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